

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: :  
Toshiaki Aoai : Group Art Unit: 1752  
Appin. No.: 10/099,981 : Examiner: ASHTON, ROSEMARY E  
Filed: March 19, 2002 :  
For: POSITIVE RESIST COMPOSITION

DECLARATION UNDER 37 C.F.R. §1.132

Assistant Commissioner for Patents  
Alexandria, VA 22313-1450

Sir:

I, Kazuyoshi Mizutani, do declare and state as follows:

I am a citizen of Japan.

I graduated from Graduate School of Osaka University in the course of chemistry in March 1988, attaining a Master's degree.

Since April 1988, I have been employed by Fuji Photo Film Co., Ltd. and have been engaged in development of photosensitive materials for positive-working printing plate, development of anti-reflective film materials for photoresist, development of photosensitive Si polymer materials for two layers-resist, and development of materials for electron beam resist.

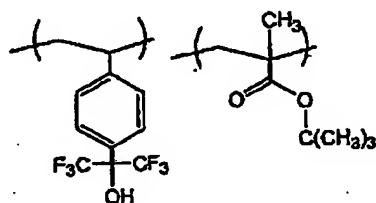
I am a co-inventor of the invention described and claimed in the above-named application, and I am familiar with the subject matter disclosed by the application.

In order to demonstrate the unexpected superiority of the present invention, the following experimentation was conducted.

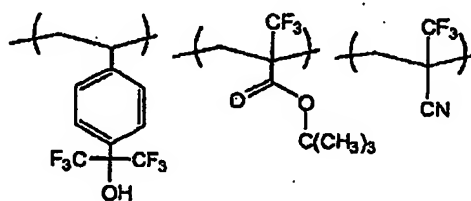
EXPERIMENTATION

Positive photoresist compositions were prepared in the same manner as in Example 1 of the present specification except that the following resins and surfactants were used. The resins used in the positive photoresist compositions are set forth below, which are disclosed in Allen, et al. (U.S. Patent No. 6,610,456).

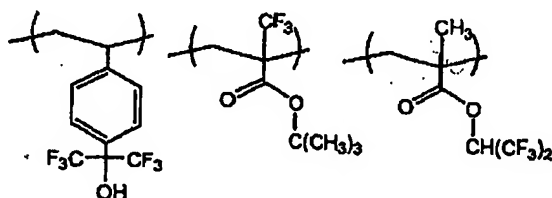
Polymer A: Polymer described in Example 6 of Allen, et al.



Polymer B: Polymer described in Example 9 of Allen, et al.



Polymer C: Polymer described in Example 10 of Allen, et al.



The positive photoresist compositions were evaluated on Development defect and Coating Performance in the same manner as in Example 2 of the present specification. The results are shown in Table A below, together with surfactant used.

TABLE A

Resin	Surfactant	Development Defect	Coating Property
Polymer A	W-1	35	O
	--	1520	X
	W-4	450	X
Polymer B	W-2	47	O
	--	1270	X
	W-4	530	X
Polymer C	W-3	39	O
	--	1050	X
	W-4	640	X

Surfactants: W-1 to W-4 each represents the same compound as in the present specification.

As is evident from the above experimental data, the present invention can obtain excellent results of Development Defect as well as Coating Property by containing the specific resin and the specific surfactant. This fact can be easily understood from the fact that in the composition containing any of the Polymers A to C and any of the Surfactants W-1 to W-3, an excellent result was obtained, on the contrary, in the composition containing any of the Polymers A to C and the Surfactant W-4 that is outside of scope of the present invention, the effect of the

present invention was not obtained. The specific effect of the present invention by containing the specific resin and the specific surfactant has been already disclosed even in Examples of the present specification, and when considering the above experimental data in combination, it is sufficiently demonstrated that the present invention has the specific effect.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Respectively submitted,

Date: 1/28/05

Kazuyoshi Mizutani

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